



# RESPONSE TRANSMITTAL AND FEE AUTHORIZATION

ATTORNEY DOCKET NO.: 15162/02100		SERIAL NO.: 09/591,622	
FILING DATE: June 9, 2000	CONFIRMATION NO.: 3045	EXAMINER: Thomas M. Dougherty	GROUP ART UNIT: 2834
INVENTOR(S): Shinya Matsuda, Takashi MATSUO and Masayuki UEYAMA			
TITLE OF INVENTION: ACTUATOR AND DRIVING METHOD THEREOF			

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, DC 20231

TRANSMITTED HERewith FOR THE ABOVE IDENTIFIED  
PATENT APPLICATION IS:

- ☒ (A) A response to the Office Action dated: December 30, 2002
- ☒ (B) A Petition for Extension of Time  
☒ for 1 month ☐ for 2 months ☐ for 3 months;  
A Petition for Extension of Time, having been previously filed,  
☐ for 1 month ☐ for 2 months ☐ for 3 months
- ☐ (C) A request for approval of proposed drawing changes.
- ☐ (D) A Notice of Appeal. \$
- ☐ (E) An Appellant's Brief on Appeal. \$
- ☐ (F) Other: \$
- ☐ (G) A verified statement to establish small entity status under 37 CFR §§ 1.9 and 1.27
- ☐ Small entity status under 37 CFR § 1.27 has been previously established
- ☐ The claims fee, if any, has been calculated as shown below

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Assistant Commissioner for Patents, Washington, D.C.  
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April 28, 2003

Date of Deposit

Douglas A. Sorensen

Name of Applicant, Assignee, or Registered  
Representative

Signature

April 28, 2003

Date of Signature

	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA
TOTAL		MINUS		
INDEP.		MINUS		
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM				

SMALL ENTITY	
RATE	ADD'L. FEE
x \$9	\$
x \$42	
+ \$140	
TOTAL ADD'L. FEE	\$ 0.00

LARGE ENTITY	
RATE	ADD'L. FEE
x \$18	\$
x \$84	
+ \$280	
TOTAL ADD'L. FEE	\$ 0.00

OR

- ☒ Please charge \$110.00 to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260, which includes  
☐ the amount of \$ for the claims fee calculated above AND/OR  
☒ the amount of \$110.00 for the fee for item(s) ☒ (B) ☐ (D) ☐ (E) ☐ (F), *supra*
- ☒ Please charge any additional fees (other than issue fee) required during the pendency of this application  
to Deposit Account No. 18-1260. Please credit any overpayment to Deposit Account No. 18-1260.
- ☒ A duplicate copy of this Response Transmittal and Fee Authorization is enclosed.

April 28, 2003

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By:

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Docket No. 15162/02100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re

U.S. Application of:

Shinya Matsuda, Takashi MATSUO and Masayuki  
UEYAMA

For:

ACTUATOR AND DRIVING METHOD  
THEREOF

Confirmation No.:

3045

U.S. Serial No.:

09/591,622

Filed:

June 9, 2000

Group Art Unit:

2834

Examiner:

Thomas M. Dougherty

**BOX AF**

Assistant Commissioner

for Patents

Washington, D.C. 20231

Dear Sir:

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April 28, 2003

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Douglas A. Sorensen

Name of Applicant, Assignee, or Registered  
Representative

Signature

April 28, 2003

Date of Signature

**RESPONSE UNDER 37 C.F.R. § 1.116**

This Response is filed in response to the Office Action dated December 30, 2002  
which provides for a response period ending March 30, 2003.

A Petition for Extension of Time, to extend the response period for one additional  
month to April 30, 2003, is being filed concurrently.

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**Status Of Application**

Claims 1, 3-9 and 11-17 are pending in the application; the status of the claims is as follows:

Claims 1 and 5 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,563,465 to Nakahara et al ("Nakahara").

Claim 1 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Japanese Publication No. 53-82286 to Takekida ("Takekida") in view of Nakahara.

Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 6-9 and 11-17 are allowed.

**Drawings**

To date, no Notice of Draftsperson's Patent Drawing Review has been received. Applicants respectfully request receipt of this document when it becomes available. Please note that the original drawings filed in the patent application are "formal" drawings.

**Allowable Subject Matter**

The allowance of claims 6-9 and 11-17, by the Examiner, is noted with appreciation.

The objection to claims 3 and 4 as being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, is noted with appreciation.

**35 U.S.C. § 102(b) Rejection**

The rejection of claims 1 and 5 under 35 U.S.C. § 102(b) as allegedly being anticipated by Nakahara, is respectfully traversed based on the following.

The Nakahara patent shows a piezoelectric actuator. Two piezoelectric devices 1 and 2 are supported at one end by a base 5. At the other end of the piezoelectric devices is a drive head 3, which places the piezoelectric devices 1 and 2 at a 90° relationship. A plurality of drive signals are applied to the piezoelectric devices (Figures 1(b) and 5-7). As a result, the drive head 3 may be moved in an elliptical orbit. (Fig. 2, col. 1, lines 14-30.)

In contrast to the cited prior art, Claim 1 includes an actuator:

wherein the displacing devices have a first natural frequency in a first natural vibration mode, in which the displacing devices are resonantly vibrated in the same phase, that substantially coincides with a second natural frequency in a second natural vibration mode, in which the displacing devices are resonantly vibrated in the opposite phase.

The rejection states that the "[r]ecitation of the natural frequency of the displacing devices in a first natural vibration mode and a second natural vibration is regarded as a goal of the invention. As this description provides for no further structural limitation to the structure of claim 1, it is regarded as a goal of the invention but not carrying patentable weight." This statement misstates both the quoted limitation and legal effect of the limitation.

The quoted limitation of claim 1 states that the "**displacing devices have a first natural frequency ... that substantially coincides with a second natural frequency ...**." Thus the first natural frequency in the first mode and the second natural frequency in a second mode must substantially coincide. That is not a goal. That is a specific physical limitation. As stated in MPEP §2106 (II)(C):

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim

will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

The quoted limitation from claim 1 does not suggest. It states that the displacing devices must have a physical property. As such, it provides a specific physical limitation. Thus, the quoted portion of the claim cannot be ignored because every limitation of a claim must be shown in the reference, expressly or inherently, to make a case for anticipation. MPEP §2131.

As noted in Applicants' prior response, the Nakahara patent only discusses the resonant frequencies in terms of given characteristic and limitations to operation (column 2, lines 25-43). There is no suggestion in the cited prior art of any method to tailor resonant frequencies in different drive modes, much less to tailor them to "substantially coincide." The cited prior art does not show, expressly or inherently, every limitation of claim 1 and thus does not anticipate claim 1. Claim 5 is dependent upon claim 1, and thus includes every limitation of claim 1. Therefore, claim 5 is also not anticipated.

Accordingly, it is respectfully requested that the rejection of claims 1 and 5 under 35 U.S.C. § 102(b) as allegedly being anticipated by Nakahara, be reconsidered and withdrawn.

### **35 U.S.C. § 103(a) Rejection**

The rejection of claim 1 under 35 U.S.C. § 103(a), as allegedly being unpatentable over Takekida in view of Nakahara, is respectfully traversed based on the following.

The Takekida publication shows two piezoelectric devices 4a and 4b positioned at 90° and connected by a connecting device 5 for driving a rotor 2. As with the Nakahara patent, the Takekida reference does not show or suggest an actuator having "a first natural frequency ... that substantially coincides with a second natural frequency ... ." To provide a *prima facie* case for obviousness, the combined references must show or suggest every limitation of the claim. MPEP 2143.03. None of the cited references shows or

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suggests the quoted limitation of claim 1. Therefore, claim 1 is not obvious over the cited prior art.

Accordingly, it is respectfully requested that the rejection of claim 1 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takekida in view of Nakahara, be reconsidered and withdrawn.

### **CONCLUSION**

Wherefore, in view of the foregoing remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

Any fee required by this document other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.


If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee,

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and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's  
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Respectfully submitted,

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April 28, 2003

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